

# HOME-LEARNING

## YEAR 8



# HALF TERM 2



"EDUCATION IS THE PASSPORT TO THE FUTURE, FOR  
TOMORROW BELONGS TO THOSE WHO PREPARE FOR IT  
TODAY."

MALCOLM X



## **Core Values**

Our school community is built on three important values which underpin all we do. We believe that great learning comes from:

### **Politeness**

- We treat every person and thing as we want to be treated
- We are respectful, polite and courteous at all times
- We help others at all times

### **Hard-work**

- We never give up
- We remain positive so that we have the strength to persevere with even the hardest work
- We do what it takes, for as long as it takes

### **Honesty**

- We are true to ourselves and others and we do not make excuses
- We look to ourselves to see what needs to be done.

## What is learning?

A big part of learning is about getting knowledge to go into your long-term memory and then using this knowledge. Our brains will only remember knowledge in the long term if we think really hard about it. Just reading, or highlighting does not make our brains work hard enough. We must **practise** remembering things – this will feel difficult at the time but worth it in the end.

## What is a knowledge organiser?

A knowledge organiser is a document that contains key facts and information. A knowledge organiser will not include every possible fact on a topic; it will include facts needed to understand the main points. Knowledge organisers make knowledge clear. So, even if a learner misses a lesson, they have a constant point of reference.

## Why are knowledge organisers good for learning?

Research shows that our brains remember things more efficiently when we know the ‘bigger picture’ and can see the way that ‘nuggets’ of knowledge link. Making links helps information move into our long-term memory. A knowledge organiser shows linked facts on a single topic.

Knowledge organisers can be used for retrieval practice (practising remembering things). Regular retrieval of knowledge helps us remember more effectively with our long-term memory. Developing our long-term memory is a vital first step. Without knowledge we have nothing to work with, nothing to think about! Retaining knowledge over time is essential.

To help us understand learning better, Gateacre students and staff have created a series of videos that explain how memory works and what we can do to make it stronger. Follow the QR code or the [Learning to Learn](#) link to view them.



## How can you best use your knowledge organiser?

There are many ways you can use a knowledge organiser. The most important thing to say, however, is ‘use it’. Owning one does not make you remember facts... **you must practise** if you are to improve at anything! There will be mistakes – this is how you learn. Ultimately, the best way to remember things is to try and remember facts that you can’t quite remember instantly... practice, practice and practice.

Here are some ways you could try to improve your **long-term memory** – they are all based on making you **think**, getting you to **test your memory**. That way your memory will get stronger:

### Hide and seek

Read through a small section of your knowledge organiser (three or four key words), cover the facts and try to write out as much as you can remember. Check your answers and correct them if needed. Then choose your next words or check ones you have already done again.

### Quiz

Test your memory by asking someone to quiz you on facts from your knowledge organiser. Write down your answers and see how many you get right. Correct any facts you get wrong.

### Teach it!

Teach and explain to someone your key facts – you could even test them!

### Back to front

Write down a fact from memory and then compose a question that would lead to that answer.

### Sketch it

Draw pictures /diagrams to represent each of the facts or dates (time lines, flow diagrams, or labelled pictures are great ways of remembering parts of a system or orders of events).

### Repackage it (from memory)

Create a mind map that brings different facts together under one title. Check that your key words are spelt correctly... or, take a key word and create a sentence that uses it.

Take pride in how you present your work. Each page should be clearly labelled with an underlined date. There should be at least one page of work.

Always check your answers and correct anything you got wrong.... You are allowed to get things wrong... That is how you learn! Getting yourself to think is the key!

Do not just copy a knowledge organiser out – that would not help learning and would only waste your time! Make sure you are having to think!

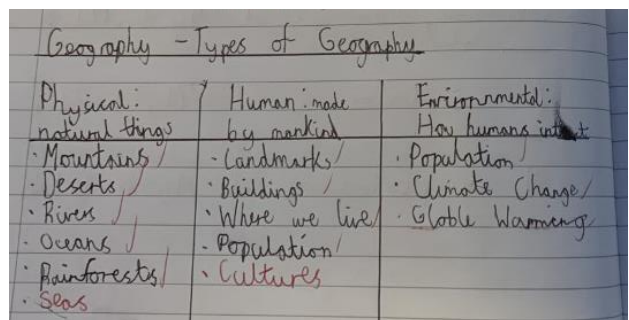
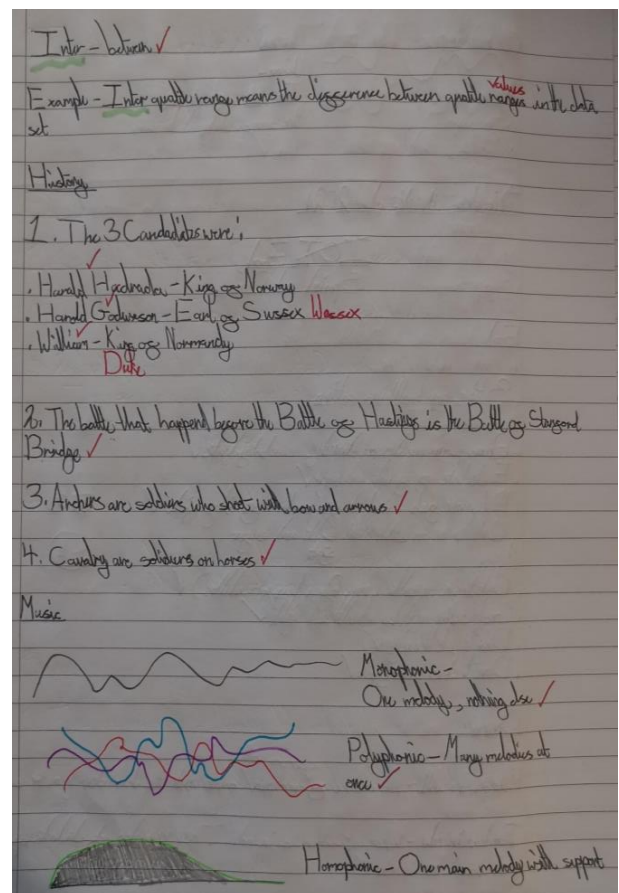
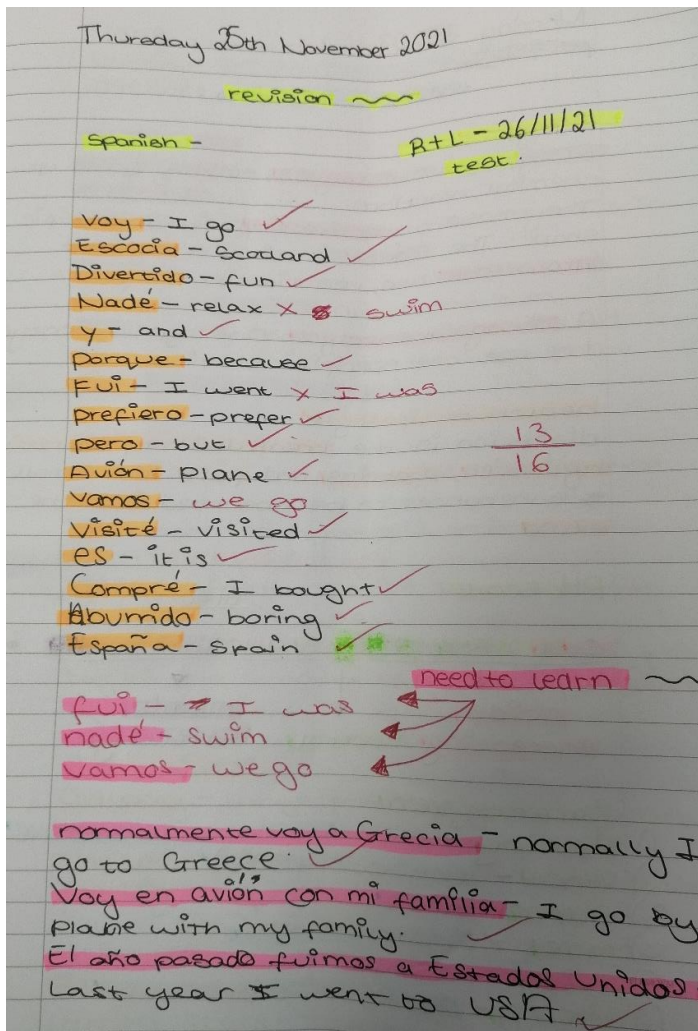


# What does effective home-learning look like?

Here are some essential points to remember and some examples to see.

- Long term memories are created when you have to **think**. Simply copying does not help you remember. Testing yourself will make you **think** and remember
- The process of reflection and self-assessment is important if you are to fix mistakes. Do not worry about getting things wrong as long as you check, fix it and try again

All these learners have **read, thought, tested themselves** and then **checked** their work. They will start to develop long term memory which they can then use in the future.



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Maths</b> [Hegarty Maths On-Line and Prefixes & Suffixes]	<b>ICT/ Food</b>	<b>English</b> [Supported by Educake Tasks]	<b>Art/Dt</b>	
<b>History</b>	<b>Drama</b>	<b>Geography</b>	<b>Science</b> [Knowledge Organisers]	
<b>Music</b>	<b>Spanish</b>	<b>RS</b>	<b>Active Lifestyles</b>	
← <b>Science: Tassomai On-Line (complete one daily goal each day)</b> →				

Where subjects share a slot it is for you to decide which one you know less about - which one should you revise? **You** decide which one to do.

Science: Remember, you should do a **Tassomai daily goal each day** to help your science learning.

Literacy: Do take time to engage with the **Listening Project**. Developing our vocabulary is immensely important if we are to develop as learners. The **listening project** is an opportunity to listen to interesting ideas, facts and make our vocabulary better. You can do this short activity at any point within the week.

**Remember, you can always do more. Challenge yourself to be the best you can be!**

# How to use the 'Listen' Project

## Start Here

Being read to is a vital part of learning - hearing words that we are unfamiliar with, ideas that we don't understand yet and thoughts we haven't had a chance to think.

Even simple stories create links from one idea to the next. The fairy tales we heard when we were babies give us the first step to understanding the adventure stories we read in school.

**Take time out and listen...**

**Step 1 - Click the link and listen.**

You can follow the text as you are read to or just listen.



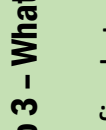
**Step 2 - Check the text.**

Have a look at the texts. There are three pieces of writing.

The first piece may appear to be very simple, maybe even too young for you. These stories are some of the first we hear and often start our journey to understanding more complicated ideas.

The second text may be something you recognise or have read yourself. Is there a link to the first story?

The third is the most complex and may even leave you with a lot of questions.



**Step 3 - What's the connection?**

The final step is to think about what links these texts and stories together?

Where have you thought about these ideas before?

Do you think about any of these ideas in school?

You can go back and listen to the texts being read as many times as you like.



*SCAN ME*



## Gingerbread

There is a great famine in the country and the woodcutter's family is starving. His wife suggests to take their children, Hansel and Gretel, into the woods, so they would have two hungry mouths less to feed.

After some hesitation he agrees and they leave the children in the wood. Hansel and Gretel have heard about the plan and return home thanks to the stones Hansel was using to mark the path. But at the next attempt, Hansel can't load his pocket with stones because the doors were locked. Instead of stones he used bread crumbs, but they are eaten by the birds, so the woodcutter and his wife succeeded and children were lost in the woods.

They find a mysterious hut made of gingerbread. There is a witch living inside. She is a wicked witch and intends to eat Hansel!

But they are too lean, so she decides to feed Hansel first, using Gretel as a slave and for some time children manage to postpone their tragic end.

The Witch, being sold, has very poor sight, so she is checking Hansel's fat by pinching his finger. Instead of the finger he gives her a chicken bone, what postpones his death for a few days.

Finally, the witch prepares an oven and plans to bake both kids. Fortunately, Gretel outsmarts her and throws the witch in her oven where she is killed. The children search the hut, find gold, jewelry and other valuables and with a help of some birds safely return home.

Their stepmother and father are sorry for what they've done and they lived happily ever after.

## That's Unfortunate

Violet Baudelaire, the eldest, liked to skip rocks. Like most fourteen-year-olds, she was right-handed, so the rocks skipped farther across the murky water when Violet used her right hand than when she used her left. As she skipped rocks, she was looking out at the horizon and thinking about an invention she wanted to build. Anyone who knew Violet well could tell she was thinking hard, because her long hair was tied up in a ribbon to keep it out of her eyes. Violet had a real knack for inventing and building strange devices, so her brain was often filled with images of pulleys, levers, and gears, and she never wanted to be distracted by something as trivial as her hair. This morning she was thinking about how to construct a device that could retrieve a rock after you had skipped it into the ocean.

Klaus Baudelaire, the middle child, and the only boy, liked to examine creatures in tide-pools. Klaus was a little older than twelve and wore glasses, which made him look intelligent. He was intelligent. The Baudelaire parents had an enormous library in their mansion, a room filled with thousands of books on nearly every subject. Being only twelve, Klaus of course had not read all of the books in the Baudelaire library, but he had read a great many of them and had retained a lot of the information from his readings. He knew how to tell an alligator from a crocodile. He knew who killed Julius Caesar. And he knew much about the tiny, slimy animals found at Briny Beach, which he was examining now.

Sunny Baudelaire, the youngest, liked to bite things. She was an infant, and very small for her age, scarcely larger than a boot. What she lacked in size, however, she made up for with the size and sharpness of her four teeth. Sunny was at an age where one mostly speaks in a series of unintelligible shrieks. Except when she used the few actual words in her vocabulary, like "bottle," "mommy," and "bite," most people had trouble understanding what it was that Sunny was saying. For instance, this morning she was saying "Gack!" over and over, which probably meant, "Look at that mysterious figure emerging from the fog!"

## Philip Pirrip

"Hold your noise!" cried a terrible voice, as a man started up from among the graves at the side of the church porch. "Keep still, you little devil, or I'll cut your throat!"

A fearful man, all in coarse grey, with a great iron on his leg. A man with no hat, and with broken shoes, and with an old rag tied round his head. A man who had been soaked in water, and smothered in mud, and lamed by stones, and cut by flints, and stung by nettles, and torn by briars; who limped, and shivered, and glared and growled; and whose teeth chattered in his head as he seized me by the chin.

"O! Don't cut my throat, sir," I pleaded in terror. "Pray don't do it, sir."

"Tell us your name!" said the man. "Quick!"

"Pip, sir."

"Once more," said the man, staring at me. "Give it mouth!"

"Pip. Pip, sir."

"Show us where you live," said the man. "Pint out t he place!"

I pointed to where our village lay, on the flat in-shore among the alder-trees and pollards, a mile or more from the church.

The man, after looking at me for a moment, turned me upside down, and emptied my pockets. There was nothing in them but a piece of bread. When the church came to itself - for he was so sudden and strong that he made it go head over heels before me, and I saw the steeple under my feet - when the church came to itself, I say, I was seated on a high tombstone, trembling, while he ate the bread ravenously..



## Gingerbread

Perhaps one of the most famous **fairy tales** collected by the **Grimm** brothers is **Hansel and Gretel**. The dark tone of the story is similar to a lot of early fairy stories and is nothing like the retellings by Disney! We might find it difficult today to understand how a family might give up their children like this but times were very hard.

Fairy tales often serve as warnings or lessons; for instance – don't go into those woods alone!



## That's Unfortunate

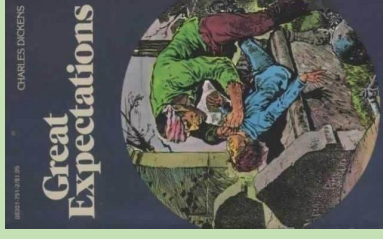


Stories about children looking after themselves and using their own skills and wits to survive in tough circumstances are very popular. Some of the older stories you might be familiar with are the **Famous Five** and **Secret Seven** books by **Enid Blyton**. Even **Harry Potter** might be a story of surviving against the odds. A **Series of Unfortunate Events** may break the mould by promising us an unhappy ending!

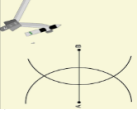
## Philip Pirrip

**Philip Pirrip, or Pip**, is the name of the main character in **Charles Dickens's** novel, **Great Expectations**. The young boy is alone in the world until he is taken under the wing of an escaped criminal, **Magwitch**, and his adventures begin.

The **Victorian era** that Dickens's lived in relied heavily on class and family to provide you with opportunities. Pip has very few **expectations** but things change as his life unfolds.



# Prefixes and Suffixes in Maths

**bi-** bisect  
"cut in two equal parts"  


**centi-** centimetre  
"1 metre split into 100 equal parts"  


**circ-** circumference  
"the distance around a shape"  
**about/around**

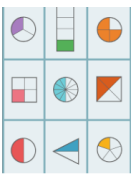
**co-** co-ordinate  
"distance of a point both horizontally and vertically from the x and y-axis"  
**joint/jointly**

**deca-** decagon  
"A polygon (2d shape) with ten angles"  
**ten**

**div-** divide  
"Separate into parts"  
**separate**

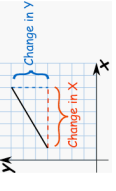
**dodeca-** dodecagon  
"A polygon (2d shape) with twelve sides"  
**twelve**

**equi-** equilateral  
"A triangle with equal sides and angles"  
**equal**

**fract-** fraction  
"break into parts"  
  
**break**


**funct-** function  
"A relation or expression involving one or more variables"  
**work/operate**


**-gon** Polygon  
"A shape with many angles"  
A figure having (a specified number of) angles.

**grad-** gradient  
"The steepness of a line"  
  
**step/steep**

**-hedron** decahedron  
"A 3d object with 10 faces"  
**face**

**hemi/semi-** hemi-sphere/  
semi-circle  
"half of a sphere/circle"  
  
**half**

**hexa-** hexagon  
"A polygon (2d shape) with 6 sides"  
  
**six**

**hepta-** Heptagon  
"A polygon (2d shape) with 7 angles"  
  
**seven**

**in-** Inequality  
Greater than  $>$   
Greater than or equal to  $\geq$   
Less than  $<$   
Less than or equal to  $\leq$   
Not equal to  $\neq$   
"Not equal to"  
**not/without**

**inter-** Inter-quartile range  
"The difference between the quartile values in the data set."  
**between**

**iso-** Isosceles  
"A triangle with exactly two equal sides and angles"  
**equal/identical**

**kilo-** kilometre  
"One thousand metres"  
**thousand**

# Prefixes and Suffixes in Maths

**lat** Equilateral  
"The sides are equal"

**-metry** trigonometry  
"The measuring of relationships of sides and angles in triangles"

**milli-** millimetre  
"One thousandth of a metre"

**nona-** nonagon  
"A polygon (2d shape) with 9 angles"

**octa-** octagon  
"A polygon (2d shape) with 8 angles"

**side**

**para-** parallel  
"Lines/planes being an equal distance from each other to any given point"

**process of measuring**

**penta-** pentagon  
"A polygon (2d shape) with 5 angles"

**peri-** perimeter  
"The measure around a shape"

**nine**

**poly-** polygon  
"A 2d shape with many angles"

**eight**

**pos/posit-** position  
"a particular way in which someone or something is placed or arranged"

**along side**

**prim-** primary data  
"data that is collected by a researcher from first-hand sources"

**five**

**quad-** quadrilateral  
"Any polygon (2d shape) with 4 sides"

**around**

**quart-** quartile  
"divides the number of data points into four"

**many**

**quint-** quintile  
"divides the number of data points into five"

**place/put**

**tangere** tangent  
"A straight line that touches a curve at a single point"

**first**

**-tion** fraction  
"The process/result of breaking up into parts"

**square**

**trans-** transform the shape  
"Move a shape in some way across the Cartesian plane"

**1/4**

**tri-** triangle  
"A polygon (2d shape) with 3 sides and angles"

**1/5**

**var-** variable  
"The value of the unknown can change."

**Latin:touch**

**vert-** vertex  
vertex  
vertex  
vertex  
vertex  
"A point of turn (angle) on a 2d or 3d shape)"

**across/beyond**

**change**

**three**

**turn**

**turn**



Main events

Gunpowder Plot 1604

The traditional story goes that Guy Fawkes and a number of Catholic Plotters tried to blow up Parliament on the day that Protestant King James was due to visit. The plot was discovered at the last minute, following a tip-off from someone involved in the plot. All the plotters were caught, tortured and executed. However, some historians believe that the plot was an elaborate Protestant plan to frame the Catholics, which then persuaded King James to pass more anti-Catholic laws.



The English Civil War, 1642 - 1649

King Charles and Parliament argued over 3 important issues:

- 1) Money. Parliament accused Charles of raising unfair and illegal taxes. They were determined to control spending.
- 2) Power! Charles said his power came directly from God, and therefore could not be challenged. Parliament was determined to have more say in matters.
- 3) Religion. Charles angered Protestant Parliament by marrying a French Catholic. He later made changes to churches, services and the prayer book. The resulting civil war was a failure by both sides to find areas of compromise (come to an agreement).



Interregnum, 1649 - 1660

After the execution of Charles, England became a republic for the first time in its history. Cromwell ruled England, taking the title of Lord Protector. He raised taxes and used the army to enforce what he thought was right, which made him unpopular. In Ireland he persecuted Catholics - particularly in Drogheda - where the people of the town were massacred.



The Plague & the Great Fire of London, 1665 - 1666

Following the Restoration of the monarchy, the reign of Charles II was well known for 2 famous events that happened just a few years into his rule. The first was an outbreak of plague, which killed thousands in London and spread to other parts of the country. The following year, much of London was destroyed by a devastating fire. The tightly packed wooden buildings in the old city burned for days.



The Glorious Revolution & the Bill of Rights, 1688

After Charles II died, Catholic James II proved to be an unpopular king, and Protestant Parliament suspected that he was trying to change the country back to Catholicism. They feared another civil war. His replacement by his Protestant daughter Mary and her husband William became known as the Glorious Revolution, as it had been achieved with very little bloodshed. The new monarchs agreed to accept the Bill of Rights, which gave more power to Parliament and less to the monarch.



**Overview**

When **Queen Elizabeth** died childless in 1603, **James VI** of Scotland became the first Stuart King of England. He was a **Protestant**, but not well liked in England because he was Scottish. His popularity increased after the discovery of the **Gunpowder Plot**, and his **persecution** of Catholics that followed. He was succeeded by his son **Charles** in 1625. Charles soon fell out with **Parliament** over such issues as religion, money and power. This resulted in the **English Civil War**, and Charles' eventual **execution**. England was ruled by **Oliver Cromwell** from 1649 until his death in 1658. During this time England was a **Republic**. By 1660, Parliament asked Charles II to become King, and the monarchy was **restored** (brought back). Charles died in 1685, having fathered at least 14 children. Unfortunately, none of them were with his wife! So his brother, **James** became King. He was a Catholic, and this created conflict with a strictly Protestant Parliament. Parliament wrote to James' daughter, **Mary**, asking her and her Dutch Protestant husband **William** to become joint rulers of England. In return, they agreed to accept the **Bill of Rights**, which set limits on the power of the monarchy. By 1707, the **Act of Union** had united England and Scotland, and **Great Britain** was born. For many years, the Scots felt they were disadvantaged in an unequal partnership. By **1745**, Britain's population was approaching 8 million, with 80% of people living in the countryside. Only the richest 5% of the population could vote in an election.

**Key People**

King Charles I



He was deeply religious, and a firm believer in the Divine Right of Kings - the power of the monarchy came directly from God. This may explain why he argued constantly with Parliament throughout his reign, a Parliament that was constantly trying to tip the balance of power in their favour. This led to the Civil War, Charles' defeat and his eventual execution.

King Charles II



Known as the 'merry monarch' Charles II became king after the **Restoration**, following Cromwell's death. He immediately restored many things and strict religious rules were relaxed. Charles fathered at least 14 illegitimate children (outside of marriage) during his reign. On his death bed he confessed to being a secret Catholic, but worse was to follow - the throne passed to his brother James...and he made no secret of his Catholicism! This caused further religious tension in England. This led to the **Glorious Revolution** a few years later.



Oliver Cromwell

A farmer, who became an MP and was a leader during the English Civil War, he reorganised Parliament's army into a professional fighting force. He lost faith in Charles I after he restarted the Civil War.

A strict Puritan, Cromwell ruled England as Lord Protector during the Interregnum, but his reputation was ruined by his own closing down of Parliament, and killings by his army in Ireland.

William & Mary



Mary was the Protestant daughter of James II, who, along with her Dutch husband William, was invited by Parliament to return to England in 1688 to rule as joint King and Queen. James fled to France, and the event became known as the Glorious Revolution.



## Key Terms

**Bill of Rights** – this Act limited the power of the monarch and confirmed the right of Parliament to control taxation and law-making.

**Civil War** – a war within one country between two different sides.

**Democracy** – a system of government in which all citizens have the right to vote for their leaders in free and fair elections.

**Divine Right** – the belief that a monarch's power comes directly from God.

**Glorious Revolution** – the time when an unpopular Catholic King (James) was replaced by a Protestant King & Queen (William and Mary) with little fighting.

**Interregnum** – literally, a pause between two periods of time. It refers to the years 1649 – 1660 when England had no King and was a republic.

**Monarch** – a King or Queen.

**Persecution** – to punish people for who they are or what they believe, usually used during this period to describe actions against Catholics.

**Puritan** – a group of Protestants, often seen as extreme, who wanted to simplify religious worship and introduce strict religious rules.

**Republic** – a country without a King or Queen.

**Restoration** – to bring something back, in this case, the monarchy in 1660.

**Treason** – a crime against your country, punishable by death.

## Tasks

### **Task 1**

Using the overview section, create a timeline of the monarchy of England from 1603 to 1685. Write one way the monarchs connect to each other (for example why did James I become King after Elizabeth I).

### **Task 2**

Read the section on 'Key People' and create a biography for one of the rulers.

Think about:

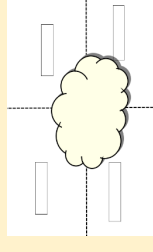
- The years of their reign.
- An event that was central (important) to their reign.
- A judgement on whether they were a successful ruler.

### **Task 3**

From the 'Main Events' section above, create a 10-question multiple choice quiz to test yourself or someone else. Make sure to make a note of the answers.

### **Task 4**

Create 3 flashcards, one for each of the three sections above: Overview, Key People, and Key Events. It is up to you to decide what the flashcard specifically focuses on. The image to the right shows the layout of a flashcard.



### **Task 5**

Write a letter to a family member as one of the conspirators (planners) of the Gunpowder Plot. Explain why you are against the King.

### **Task 6**

Read through the BBC Bitesize page and challenge yourself against the multiple choice quiz at the bottom!

<https://www.bbc.co.uk/bitesize/topics/2k4cwmn/articles/2xx8g7h>

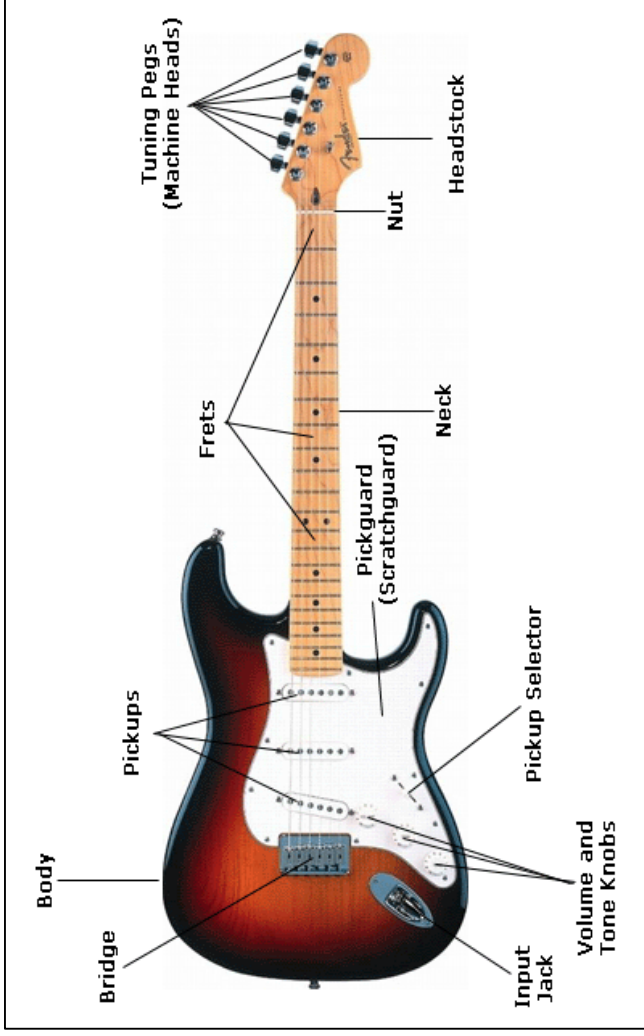


SCAN ME

# THE GUITAR

## Guitar Key Technical Words:

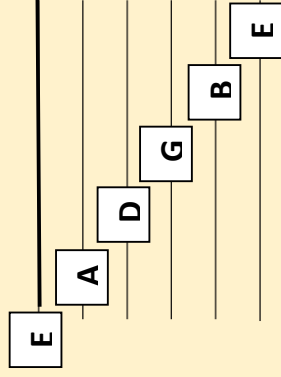
- Chord:** playing many notes at once (often all six strings)
- Strumming:** Playing all required strings in one go
- Picking:** Plucking the individual strings
- Fret:** The spaces on the neck where you press your fingers down
- Acoustic:** a guitar that does not need an amplifier to be heard
- Jack Lead:** The cable that connects a guitar to the amplifier
- Blue Note:** bending the string to make a different note
- Hammer On:** playing a string with your 'fret' hand by striking down with a finger
- Pull Off:** playing a string with your 'fret' hand by plucking the string with a finger
- Palm Mute:** stopping the strings vibrating with the palm of your strumming hand



## Other Guitar-like String Instruments:

Ukulele	Hawaii (USA)
Lute	'Old' European
Banjo	Africa/America
Sitar	India
Balalaika	Russia
Koto	Japan

## Tuning the open strings:



**Task 1:** Learn the names of the open strings on guitar and watch the clip on the QR code or Youtube link below.

**Task 2:** Learn the key technical words.

**Task 3:** Learn the Instrument names of other guitar-like instruments, and which country they come from.

**Task 4:** Draw a diagram of the guitar **without the labels**. After revising these labels, complete the diagram **from memory – no peeking!** Add any gaps **in red pen**.

**Task 5:** Create a 10 mark quiz based on the guitar. Get someone to test you!

**Task 6:** Listen to some famous guitarists on Youtube. For example, Jimi Hendrix, Eric Clapton, B.B. King, John Williams.



<https://www.youtube.com/watch?v=KoVvstkrMME>



# Vitamins and Minerals – Year 8

Your body needs vitamins and minerals in small amounts, they help use other nutrients efficiently. You can usually get enough vitamins and minerals from a balanced diet that includes plenty of fruit and vegetables.

## Vitamins

Vitamin A	B Vitamins	Vitamin C
Food Source: Cheese, eggs, oily fish	Food Source: Meat, fish, milk, cheese, eggs, bread.	Food Source: Citrus Fruits (oranges, lemons)
Function: Fighting infection, better vision, keeping skin healthy	Function: Makes red blood cells, healthy skin and eyes, releases energy from food	Function: Healthy skin, eyes and nervous system, releasing energy from food
Vitamin D	Vitamin E	Vitamin K
Source: Our body creates this from direct sunlight but it is in oily fish, red meat and egg yolks	Food Source: Vegetable oil, olive oil, nuts, seeds, cereals	Food Source: Green vegetables, vegetable oil, cereals.
Function: Helps keep bones, teeth and muscles healthy	Function: Healthy skin, eyes and immune system	Function: Healing wounds

## Minerals

Iron	Calcium	Zinc
Food Source: Red meat, beans, nuts.	Food Source: Milk, green vegetables.	Food Source: Red meat, beans, chickpeas.
Function: Making red blood cells.	Function: Strong bones/teeth, healthy muscles, blood clotting	Function: Helps to heal wounds.

<u>Weekly Tasks</u>
Task 1: Create a set of revision cards for vitamins A, B, C.
Task 2: Create a set of revision cards for vitamins D, E, K.
Task 3: Create a set of revision cards for minerals.
Task 4: Choose a vitamin and research what happens if we don't get enough.
Task 5: Choose a mineral and research what happens if we don't get enough.
Task 6: Create a vitamins and minerals quiz – include 10 questions and answers.
Task 7: Design a plate of food that includes all vitamins and minerals.



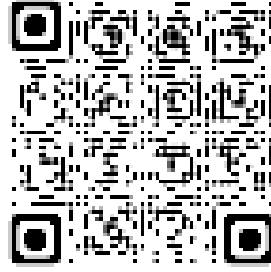
# Computing Department Knowledge `Organiser: Year 8 Computing Systems

What is the Antikythera Mechanism?



<https://youtu.be/EZy4a5uTYH0>

Introduction to Computer Devices and Logic Gates



[www.bbc.co.uk/bitesize/guides/zxb72hv/revision/1](http://www.bbc.co.uk/bitesize/guides/zxb72hv/revision/1)

## Computing Systems

The invention of the computer has had a huge impact on our day-to-day lives, and they are now present everywhere – at home, at work and in education.

It is easy to recognise that personal computers, laptops and mobile devices are computers, but computers are also hidden in many more devices. Computers are found in many of the devices we use on a daily basis. Because they are relied on so heavily, knowing what they are and how to use them is valuable.

### Input devices

An **input** device is any piece of computer hardware **used to provide data** to a **computer system**.

### Output devices

An **output** device is any piece of computer hardware **used to communicate the results** of data that has been processed.

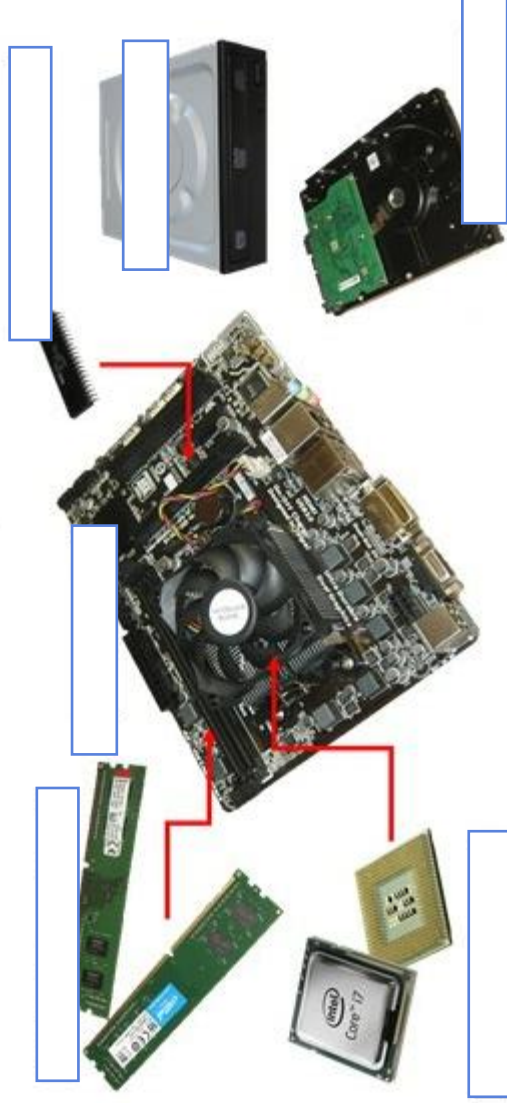
Identify whether each device is an input or output device: The first one has been done for you:

Device	Input Device	Output Device
Keyboard	✓	
Monitor		
Speakers		
Mouse		
Printer		
Headphones		
Webcam		



# Computing Department Knowledge `Organiser: Year 8 Computing Systems

## Internal Components



### Label the Components

RAM (Random Access Memory)

ROM (Read Only Memory)

CD/DVD Drive

Hard Disk Drive

CPU (Central Processing Unit)

Motherboard

### Operating Systems (OS)

Software that supports a computer's basic functions, such as: managing memory, managing the CPU and controlling devices.

- Windows
- Mac OS X
- Linux
- iOS
- Android

### Application Software

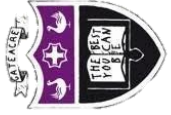
Programs that allow the user to complete a specific task

- Word processing software e.g. Word
- Graphic design software
- Games

### System Utility Software

Used to manage the computer and keep it running

- Antivirus
- Encryption
- System security



## Computing Department Knowledge `Organiser: Year 8 Computing Systems

<b>Computing System Key Words:</b>
<b>Binary:</b> A number system that contains two symbols, 0 and 1. Also known as base 2.
<b>Boolean:</b> A data type in computing which only has two possible values, true or false.
<b>Component:</b> Working parts of a computer system.
<b>Hardware:</b> The physical parts of a computer system, eg a graphics card, hard disk drive or CD drive.
<b>Input:</b> Data which is inserted into a system for processing and/or storage.
<b>Logic Gate:</b> Circuit components which take several inputs, compare the inputs with each other, and provide a single output based on logical functions such as AND, OR and NOT.
<b>Output:</b> Data which is sent out of a system.
<b>Software:</b> Programs that run on a computer and complete a specific task.
<b>Truth Table:</b> Used to assess possible results of a Boolean algebra statement.



The next two schemes are:

# Physical Theatre

**THE 4 P'S**

PACE

PITCH

PAUSE

PROJECTION

## New Skill/Technique Retrieval

Knowledge/ skill	Definition
<b>Stimuli</b>	The starting point, idea or inspiration for your devised <b>drama</b> . It is what you base your <b>drama</b> around.
<b>Gesture</b>	In <b>acting gesture</b> is <b>defined</b> as a sign that communicates a character's action, state of mind and relationship with other characters to an audience.
<b>Still Image or Freeze frame</b>	This is where the action freezes as if someone has taken a picture midway through a performance. Conveys meaning and highlights the current scene.
<b>Body as Prop</b>	A genre (type) of drama that tells a story using over exaggerated movement, and physicality. <b>Body as Prop</b> Using your body to create props and objects on stage.
<b>Improvisation</b>	A very spontaneous performance without specific or scripted preparation.
<b>Transition</b>	This is the process in which something changes from one state to another
<b>Movement</b>	Where we move to on and around the stage avoiding the blocking another actor.
<b>Physical Theatre</b>	<b>Physical theatre</b> is a well-known genre of theatrical performance that encompasses storytelling primarily through <b>physical</b> movement.
<b>Role Play</b>	Role play is the act of imitating the character and behaviour of someone who is different from yourself.
<b>Promenade theatre</b>	In <b>promenade theatre</b> there is <b>no formal stage</b> , both the audience and the actors are placed in the same space.
<b>Narration</b>	A commentary delivered to accompany a performance.
<b>Slow Motion</b>	Performing in manner whereby the action appears much slower than in real life.

### Gecko Youtube Channel

What is promenade theatre?

What are the constraints of 'Theatre in The Round'?

What performance skills can we use to show emotion?



**DO NOT** talk/shout whilst watching a performance/show



**DO NOT** put your feet up on the chair in front of you

# THEATRE ETIQUETTE

**DO NOT** leave any rubbish behind

**DO NOT** get out of your seat unless you have asked a member of staff

**BUT DO ENJOY YOURSELVES!**

WATCH LIST FOR THIS TERM (IF YOU CAN):



**Drama Lama! What is Physical Theatre?**

**Gecko 'The Time of your life' 2016**



**Youtube Channel: DV8 Physical Theatre**



Key performance terminology for this term:

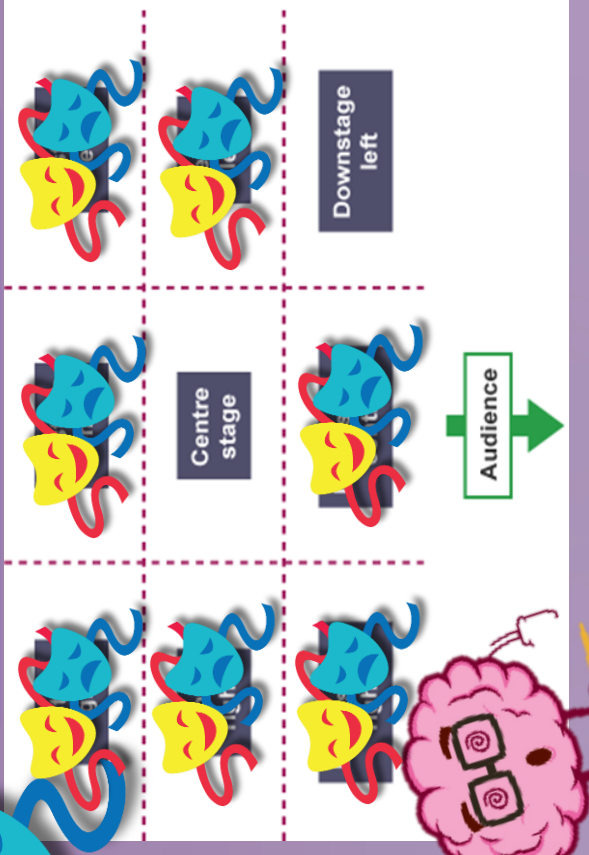
## Physical Skills (Skills that involve using your BODY)

1. Body Language	How an actor uses their body to communicate meaning. For example, crossing your arms could mean you are fed up.
2. Posture	The position an actor holds their body when sitting or standing. For example, an upright posture.
3. Gait	The way an actor walks.
4. Facial Expressions	A form of non-verbal communication that expresses the way you are feeling, using the face.
5. Gestures	A movement of part of the body, especially a hand or the head, to express an idea or meaning.
6. Stance	The way you position yourself when standing to communicate your role. An elderly person would have a different stance to a child!

## Vocal Skills (Skills that involve using your VOICE)

1. Projection	Ensuring your voice is loud and clear for the audience to hear.
2. Volume	How loudly or quietly you say something. (Shouting, whispering)
3. Tone	The way you say something in order to communicate your emotions. (E.g. Angry, worried, shocked tone of voice)
4. Pace	The speed of what you say.
5. Pause	Moments of pause can create tension, or show that you are thinking.
6. Accent	Use of an accent tells the audience where your character is from.
7. Pitch	How high or low your voice is.
8. Emphasis	Changing the way a word or part of a sentence is said, in order to emphasise it. (Make it stand out.) Try emphasising the words in capital letters and see how it changes the meaning: "How could YOU do that?" "How could you do THAT?"

## Stage positioning



Week 1	Week 2	Week 3
Draw out the stage positioning grid and uncover our Drama faces!	Create an information poster on the Physical Theatre Company 'Frantic Assembly'	List the important skills/techniques needed for effective physical theatre
Access the GCSE Bitesize Quiz	Watch a Gecko Performance on youtube	Write a list of the skills you have explored/used this term – be proud!







# Spanish - Key verbs and vocab

## Key phrases for this half term - Holidays

1. **Siempre voy a Alemania** - I always go to Germany
2. **Voy con mi clase en autocar** - I go with my class by coach
3. **El verano pasado fui a Gales** - Last summer I went to Wales.
4. **Fui con mis amigos y fuimos en tren** - I went with my friends and we went by train
5. **¡Fue un desastre!** - It was a disaster
6. **¡Lo pasé bien!** - I had a good time!
7. **El hotel era muy lujoso** - the hotel was very luxurious
8. **El primer día compré una camiseta** - On the first day I bought a T-shirt
9. **El último día nadé en el mar** - On the last day I swam in the sea
10. **¡Ojalá pudiera ir a Estados Unidos!** - If only I could go to the USA!

Siempre voy a Egipto con mi familia y vamos en avión porque es rápido sin embargo el verano pasado fui a Escocia con mi clase. El hotel era lujoso ipero fue un desastre! El primer día fui a un restaurante pero fue asqueroso y después perdí mi pasaporte. El último día nadé en el mar sin embargo hizo frío.

asqueroso = disgusting  
perdí = I lost  
frío - cold

Para ir más lejos: (To go further ...)



Scan this QR code with your phone or tablet. It will take you to BBC Bitesize where you can practice how to form the preterite (past) tense in Spanish - Very useful!



Your teacher should have given you your username and password for **Languagenut**. Log in and complete some of the revision games on there. It's great for practising speaking and listening skills!

**Week 1:** Practice key phrases 1-5 - look, cover, write, check, correct x 3.  
**Week 2:** Practice key phrases 6 -10 - look, cover, write, check, correct x3.  
**Week 3:** Translate the paragraph into English.

**Week 4:** Create a 10 question quiz of key vocabulary or phrases.

**Week 5:** Create a mind map of any key phrases you can remember and then fill it in with red pen using this knowledge organiser.

**Week 6:** Teach it! Create a resource that will help teach others these key phrases. It could be a poster, a PowerPoint presentation, a leaflet or anything else. If you can, stick it in your home learning book.

**Week 7:** Write a paragraph about your holidays **FROM MEMORY!** Then check it over with your red pen. Read it out loud to a member of your family to practice your pronunciation.

# Y8 Nature Poetry Knowledge Organiser

## Things we will explore

**Animals** and what they represent e.g. innocence, anger, calm.

**The weather** and how it can be a symbol in poetry.

**Times of the day** and what they represent.

**Flowers** and what they represent.

**P**  
Point

Sum up the main idea in your paragraph.

- In my opinion...
- Arguably...
- The writer uses...
- Similarly
- Firstly...
- Secondly...
- Both...
- In contrast...
- One of the language features used is...

**E**  
Evidence

Provide Evidence for the point you are making.

- For example...
- An example of this is...
- This is shown...
- This can be seen when...
- This is demonstrated when...
- We know this because...
- The evidence for this is...

**E**  
Explanation

Why is the quotation significant?  
What effect does the quotation have on the reader?  
Why has the writer used this technique?

- This shows
- This suggests...
- This implies...
- This is effective because...
- The writer has chosen this technique because...
- This would make the reader feel...
- This has been used because...

## Structuring a poetry essay:

- Read the question carefully and make sure you understand what the question is asking you about the poem.
- Introduction- write a paragraph which summarises the poem to show your understanding. Include a sentence which links to the question.
- Main body- answer the question using PEE paragraphs.
- Conclusion- summarise your main argument in response to the question. E.g. Overall growing up is presented as turbulent, quick and a happy experience in the poem.

## Poets we will study:

William Wordsworth  
Ted Hughes  
William Blake  
Percy Bysshe- Shelly  
Imitaz Dharker  
James Reeves  
Anoop Lokkur

## T O view

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## Week 1

### Similes and Metaphors

**Simile:** comparing two things using **as** or **like**.

**Metaphor:** Saying one thing *is* something else.

Example: **Her eyes shone like diamonds. (Simile)**  
**He was a tornado blasting his way through the opposing team. (Metaphor)**

Write a simile or metaphor to compare each of the following:

**The Sun, The Moon, The Stars, A Wild Sea, Flowers, A Butterfly, A Calm Lake, An Eagle**

## Week 2

### Write your own Poem

Choose a subject linked to 'Nature' e.g. Flowers, Seasons, Insects etc.

1. **Write your own poem** on the subject.

Try to use a poetic device such as simile, metaphor, personification, alliteration etc. and a careful choice of adjectives.

2. **Highlight and annotate your poem** to show which devices/language features have been used.

## Week 3

### William Wordsworth Research

Carry out some research on the poet **William Wordsworth**. Write 10 interesting facts about his life and his style of poetry.

## Y8 Nature Poetry Home Learning Tasks

### Week 4

#### Poetry Analysis

My Heart Leaps Up William Wordsworth

My heart leaps up when I behold

A rainbow in the sky:

So was it when my life began;

So is it now I am a man;

So be it when I shall grow old,

Or let me die!

The Child is father of the Man;

And I could wish my days to be

Bound each to each by natural piety.

Read the poem above – What do you think is the meaning of 'My Heart Leaps Up' by William Wordsworth? – Write a paragraph to show your thoughts. "In my opinion ....."

What is the rhyme scheme?

Can you find any techniques used in the poem?

\*piety – devotion/religious

## Week 5

### Imtiaz Dharker Research

Carry out some research on the poet Imtiaz Dharker. Write 10 interesting facts about her life and her style of poetry.

## Week 6

### Poetry Analysis

Find a nature poem of your choice (see websites like PoetryFoundation.org and PoemHunter.com or just choose a topic and search the internet)

Make notes on the language techniques the writer uses. Try to use the **TO SMILE** acronym to set out your notes.

## Week 7

### Revision Guide

Create a revision guide for students that covers all the new knowledge and understanding you have picked up from this term about poetry.

**Language, structure, vocabulary, imagery, onomatopoeia etc.....**



## Evidence for plate movement

- Study of fossils – similar fossils are found on different continents. This is evidence that these regions were once very close or joined together.
- Pattern of rocks- similar pattern of rock layers on different continents is evidence that the rocks were once close together or joined.
- Shape of continents fit together like a jigsaw.

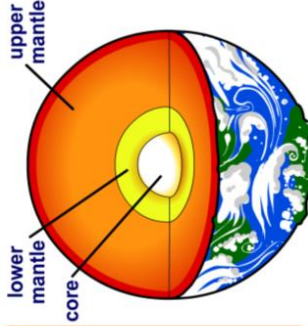
## Continental drift

In 1912, Alfred **Wegener** proposed that South America and Africa were once joined together and had subsequently moved apart.

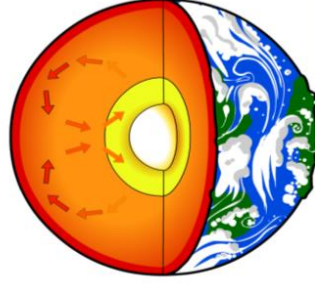
He believed that all the continents were once joined together as one big land mass called **Pangaea** and this was intact until about 200 million years ago. The idea that continents are slowly shifting is called **continental drift**.

## Convection currents

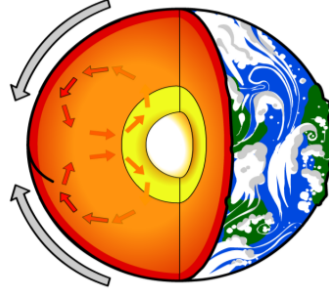
A convection current is a circulatory pattern driven by the rising of hot material and/or sinking of cold material.



1. The Earth's radioactive core releases large amounts of heat energy, which heats the rock in the lower mantle. This heated rock then becomes less dense than the cooler rock above it in the upper mantle.



2. The warmer rock in the lower mantle begins to rise, while the cooler rock in the upper mantle begins to sink. This movement of rock means that circulating convection currents are formed within the mantle.



3. As the mantle heats up, energy transfer from the convection currents causes the Earth's crust to heat up. This heating drives the movement of the tectonic plates and causes the continents to move a few centimetres each year.

## Earthquakes

An earthquake is a shaking movement of the earth's crust. They can occur anywhere but 90% occur along plate margins.. The point where energy released is called the **focus** (where plates meet). The point where the energy reaches the surface is called the **epicentre**.

## Plate tectonics

## Year 8 Geography

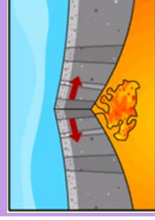
- The Earth's crust is broken into different plates, which sit on the Earth's mantle.
- These plates move because of **convection currents**.
- The plates move in different directions and meet at **plate boundaries**.

## Plate boundaries



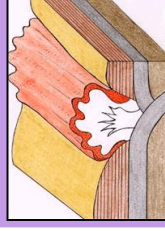
### Destructive-

The plates either **collide** or the oceanic plate **subducts under** the continental plate. An example is the Nazca plate being forced under the South American plate.



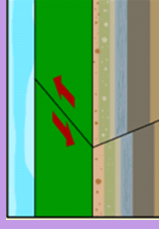
### Constructive-

The plates **move apart**. An example of this is the North American plate moving away from the Eurasian plate.



### Collision-

The plates **move towards** each other. An example of this is the Indo-Australian plate moving towards the Eurasian plate to form the Himalayas.



### Conservative-

The plates **slide past** each other. Friction causes the plates to grind past each other. An example of this is the San Andreas Fault which lies between the North American and the Pacific plate.

## Tasks- if you complete all 5, revisit some or all from memory

Task 1: Read over the evidence for plate movement. Create a mind map/spider diagram with a strand for each piece of evidence.

Task 2: Read over the theory of continental drift. Research using Google about Wegener.

Task 3: Using Google find out about a earthquake in the last 20 years. Create a fact file on the earthquake- include dates/location/cost of damage/injuries/death toll.

Task 4: Look over the 3 diagrams and information on convection currents. Create a flow diagram explaining the process in your own words on how convection currents form.

Task 5: Look over the 4 diagrams and information on plate boundaries. Cover and try to sketch your own 2D diagrams. Re-check and then cover the information and write your own explanation next to each one.

# HINDUISM

## BACKGROUND

- Hinduism began in India and is one of the world's oldest religions
- It is also called Sanatan Dharma which means 'eternal truth'
- There are around 900 million Hindus in the world today
- Hindus use 'namaste' as a greeting. It offers peace and respect to the other person's soul



## HINDU TEACHINGS:

## KEY WORDS:

REINCARNATION	The belief that we are born, we live, we die and then are born again into a new body	PILGRIMAGE	A holy journey to a special place
DEITY	A Hindu god or goddess	BRAHMAN	The universal spirit that is in all things
KRISHNA	The popular Hindu god of compassion and love	GHAT	A platform used by pilgrims to the river Ganges
KARMA	A sense of universal justice, that we are rewarded and punished for the life that we have lived	GANGES	A holy river that is a place of pilgrimage
PRASHAD	Food that has been blessed by the gods	MANDIR	The Hindu place of worship, prayer and meditation
MURTI	A statue of a god	SAMSARA	The cycle of life
AUM	The holy symbol of Hinduism	NAMASTE	A Hindu greeting

**SOME  
TASKS  
FOR YOU  
TO  
COMPLETE**

Draw a symbol for each key word

Create a mind map of Hindu worship. Use different colours for mandir and pilgrimage

Create a key word quiz or flash cards

Write your answers to 3 reflection questions

Investigate an issue in the media that involves Hinduism

Create a poster of Hindu beliefs

Make flash cards for the Hindu deities

As we study think about...

How do these beliefs help Hindus?

How do the beliefs and actions make them feel?

What links can you make with your life?

How do they express their beliefs in everyday life?

What symbols/images do they use?

"Just as a man casts off worn out clothes.... so the soul casts off worn out bodies and enters others that are new."

"The whole universe comes from the Supreme Spirit."

"The lord lives in the heart of all creatures"



# HINDU DEITIES

Hindus worship a Supreme Spirit:

BRAHMAN.

It is

- Universal (one, all-encompassing spirit)
- Neither male nor female
- Invisible
- Present in all living things
- Fulfilling roles in creation as different deities

BRAHMA – the god of creation. He creates new life and is matched with SARASWATI, the goddess of wisdom and music.



VISHNU – the god of protection. He sustains the world and keeps it safe. He is matched with LAKSHMI, the goddess of wealth and beauty.



SHIVA – the god of destruction. He destroys so that new life can come and is matched with PARVATI, the mother goddess.



## What do they believe in?

### REINCARNATION:

- Hindus believe in **samsara**, the idea that life goes in cycles
- They believe that your soul will go to a new life when you die
- Your new life depends on whether you have good or bad **karma**
- With enough good karma a Hindu's soul will one day be reunited with Brahman and become one with the universe

### DHARMA:

- Hindus believe we have duties to fulfil in life
- The duties depend on whether we are a student, an adult or retired
- Performing these duties well brings good karma
- Dharma is linked to our caste (the level of society we are born into) to move up to a better caste we must have good karma

## Where do they worship? IN THE MANDIR:

- At the front of the worship hall is a **shrine**. It has beautifully decorated statues of the gods which are called **murtis**.
- Food and flowers offered. When food is blessed by the god it becomes **prashad**.
- A bell is rung to announce that worship is beginning
- **Incense** is burnt to purify the air and carry prayers to god
- Flowers are offered, a reminder of beauty
- Men and women sit on the floor in front of the shrine
- A pilgrim may walk to a mandir for many miles barefoot to show their **commitment** to the gods



## Where do they worship?

### ON PILGRIMAGE:

- They visit **mandirs** to pray as they believe that these prayers are more likely to be answered
- They **make offerings** to the gods as a sign of love and devotion.
- They visit the places like **Varanasi** where the gods were born or lived to show **respect**
- They stand on **ghats** (special platforms beside the river)
- They **bathe** in the river to **wash away their sins**. This is so that they can get good **karma**
- They **scatter ashes** of loved ones to speed up their journey to the **next life**





# ART KNOWLEDGE ORGANISER

**YEAR 8**  
**Term 1 (1b)**  
**Native American Crafts**

## Topic: Native American Art and Culture

### Native American Art and Culture:

As we have learnt in lessons, Native American arts and crafts had a purpose, for example the ceramics they made would help them carry water and store and cook food.

### Ceramics

The Native American culture loved to explore art and in particular ceramics. The earliest pottery has been dated back to 7500 year history in the Americas. Native American ceramics was first developed out of a necessity to the society. They needed, plates, bowls, jugs to live a better lifestyle. Over time, it has evolved from just a means into representing their culture. Today Native American ceramics can be found all over the world.

### Wood Carving

The Native American culture loved to explore art and in particular Wood carving. They created many different pieces of art from wood such as: Canoes to sail the rivers, Totem Poles and decorative art. These dated back as far as 1800. The wood they would carve from: teak, sheesham, ebony, rosewood or red cedar. Native American wood carving was first developed out of a necessity to the society they lived in. They needed canoes to sail the rivers and Totem poles to protect their land from fellow tribes. Over time, native wood carving has evolved from just a means into representing their culture.

Wood carving was a canvas for the Native Americans to express themselves through the use of animals, symbols and designs which belonged to a specific tribe or family.

### TASKS TO COMPLETE:

**Week 1:** Practice key literacy vocab 1-6 – look, cover, write, check, correct x 3. Read the sentences again and check for understanding.

**Week 2:** Practice key phrases 7 -12 - look, cover, write, check, correct x3. Read the sentences again and check for understanding.

**Week 3:** Watch the video about the history of clay. Create a small fact-file with some interesting information you've been able to discover about the history of clay.

**Week 4:** Watch the video about Native American ceramics. Can you draw some of the examples of the designs and what they represent? For example, the wave pattern represents water.

**Week 5:** Create your own design using geometric, native American inspired patterns for a ceramic pot. Use the templates below to draw out bigger into your home learning book.

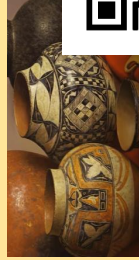
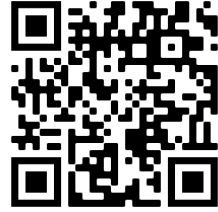
**Week 6:** Watch the video of the artist creating a 'dug out' canoe from a tree. Whilst watching the video, make notes on the different steps and important things the artist has to consider when making the canoe.

**Week 7:** Look at the examples of the more modern wood carvings, inspired by native American people. Can you try and complete a drawing of one of these images?

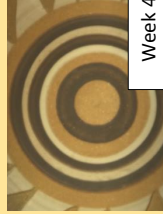
### Key Literacy Vocabulary:

1. Tribal – a characteristic of a tribe or tribes.
2. Tradition – a long-established belief or way of doing something that has been passed on from generation to generation.
3. Symbolic – significant by what is being represented.
4. Geometric Patterns – patterns containing shapes, objects or pictures that repeat themselves.
5. Wood Carvings – the action of carving wood to make functional objects or art.
6. Totem Poles – a pole carved and painted with a series of symbols often representing family history.
7. Tee-Pees – a portable tent made of skins, cloth, or canvas on a frame of poles, usually in a cone shape.
8. Ceramics – pots and other items made from clay hardened by heat.
9. Textiles - a type of cloth or woven fabric.
10. Headdress – an ornamental covering or band for the head, especially one worn on ceremonial occasions.
11. Indigenous – originating or occurring naturally in a particular place; native.
12. Earth colours – colours of the earth, for example, brown, brownish-reds, reds.

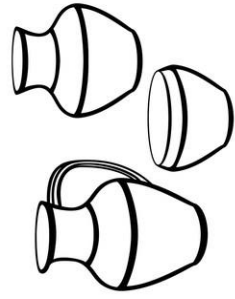
Week 3 – scan this QR code to watch the video about clay history, then make a short fact-file



Week 4 – scan this QR code to see a video about native American ceramics.



Week 5 – use the images and templates to help inspire you to create a design for a ceramic pot using native American inspired patterns.



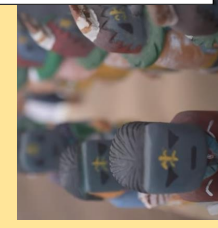
### Key Literacy Vocabulary:

1. Tribal – a characteristic of a tribe or tribes.
2. Tradition – a long-established belief or way of doing something that has been passed on from generation to generation.
3. Symbolic – significant by what is being represented.
4. Geometric Patterns – patterns containing shapes, objects or pictures that repeat themselves.
5. Wood Carvings – the action of carving wood to make functional objects or art.
6. Totem Poles – a pole carved and painted with a series of symbols often representing family history.
7. Tee-Pees – a portable tent made of skins, cloth, or canvas on a frame of poles, usually in a cone shape.
8. Ceramics – pots and other items made from clay hardened by heat.
9. Textiles - a type of cloth or woven fabric.
10. Headdress – an ornamental covering or band for the head, especially one worn on ceremonial occasions.
11. Indigenous – originating or occurring naturally in a particular place; native.
12. Earth colours – colours of the earth, for example, brown, brownish-reds, reds.

Week 6 – Watch the video by scanning the QR code about how the artist has created their own 'dug out' canoe.



Week 7 – Watch the video and create a drawing of one of the wood-carved characters made by the artist.





# DESIGN TECHNOLOGY KNOWLEDGE ORGANISER

## Topic: Wooden Wheeled Children's Toy Project



YEAR 8 DT

### My Tool Box



**Tenon Saw** – Used to cut straight lines in wood.



**Coping Saw** – Used to cut curves and internal shapes in



**Try Square** – Used to mark out right angles.



**Vice** – Used to hold an object.



**Hack Saw** – Used to cut metal.



**Pyro pen** – Used to burn designs into wood



**Pillar/Bench Drill** – Used to drill holes into different materials.



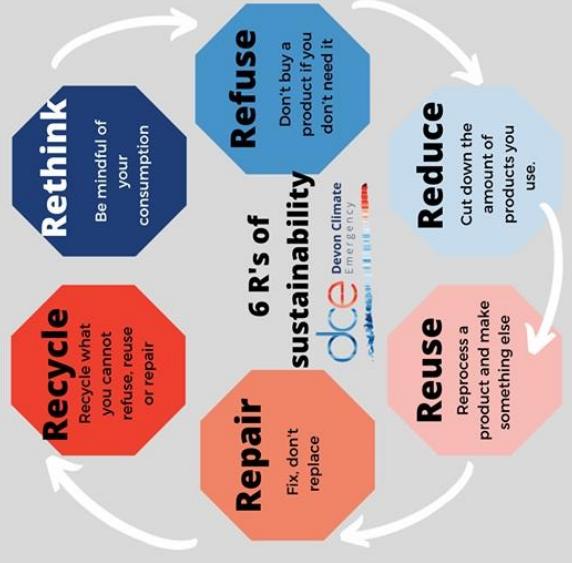
**Machine vice/Drill Press Vice** – Used to hold workpiece securely during drilling.



**Belt Sander** – Used to sand/smooth down different materials

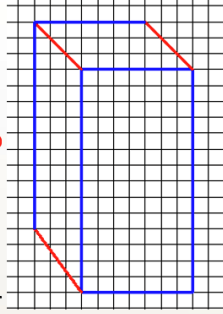
### Focused topics

#### 6 R's of Sustainability



### Oblique drawing

In oblique projection the drawing is made up of a series of parallel **horizontal and vertical lines** and parallel **45 degree lines**.



### Key Terms

**Hardwood** - the wood from a deciduous, broadleaved tree (such as oak, ash, or beech)

**Manufactured Board** – timber sheets which are produced by gluing wood layers or fibres together (such as MDF, Plywood and Chipboard)

**Pyrography** - decorating wood by burning a design on the surface with a heated metallic point

**Renewable** - inexhaustible and replaceable

**Softwood** - the wood from a conifer (such as pine, fir, or spruce)

**Sustainable** - A sustainable resource can be replaced once used. As a tree is chopped down, many more can be planted to ensure the use of trees can be sustained.

### Tasks

**Task 1:** Cover the knowledge organiser then write down all the tools you have learnt. Check and red pen mistakes.

**Task 2:** Do the same as task 1 for Key terms & definition.

**Task 3:** Learn the focused topic: the 6 R's of sustainability- Write down or draw the diagram.

**Task 4:** Draw two tools and write what they are for.

**Task 5:** Create a quiz based on the focused topic column- get someone to test you.

**Task 6:** Create a mind map for the information you remember and red pen anything you've forgotten.

**Task 7:** Teach it. Create a task that can be used to teach some of the information from here.

### To go further:

Introduction to oblique sketches:



More information about natural and manufactured timber:



### Week One

Pick 4 key words from the knowledge organiser page title **periodic table**. Using those 4 key words make as many links between the words as you can.

Remember to include:

1. The 4 key words you have chosen
2. The links you have made between the words, these should be written along the arrow that connects them.

### Week Two

Read your knowledge organiser focusing on the **Periodic Table** for 5 minutes. Then turn the organiser over and write a short summary of the topic.

The summary should include:

1. No more than 40 words
2. And should be written in full sentences.

### Week Three

1. What is the Periodic Table arranged in order of?  
2. What do we call the columns of the Periodic Table?

3. What do we call the rows of the Periodic Table?

4. What does the mass number of an element tell us about it's atoms?

5. Using your Periodic Table – how many protons are in atoms of calcium?

### Week Four

Read your knowledge organiser focusing on **separation techniques** for 5 minutes. Then turn the organiser over and write a short summary of the topic.

The summary should include:

1. No more than 40 words
2. And should be written in full sentences.

### Week Five

Using your Home Learning book, make a quiz containing at least 10 questions from the topics **Periodic Table** and **separation techniques**.

Remember to include:

1. Answers to each question written in full sentences,
2. A variation in the type of question, Draw/state/explain etc.

### Week Six

Answer the following questions in full sentences.

1. A mixture, containing what type of substance can filtration separate?
2. Give an example of a mixture that can be separated by filtration
3. Define the term 'filtrate'
4. Define the term 'residue'
5. Define the term 'mixture'
6. Define the term 'compound'
7. Draw a particle diagram to represent a mixture
8. Draw a particle diagram to represent a compound

WE ARE USING



TASSOMAI

Have you completed your 4 daily goals?  
Complete 4 daily goals each week to ensure success in Science! 😊

Home learning tips:

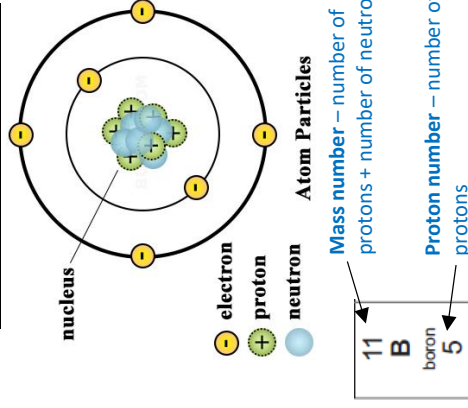
1. Answer any questions in full sentences.
2. Take your time reading through your knowledge organiser.
3. Read the task twice.
4. Ask your teacher in your next lesson if you are unsure about anything.
5. Not sure which week to do? Ask your teacher!



### What do I need to be able to do?

- Describe the varying physical and chemical properties of different elements
- Understand the principles underpinning the Mendeleev Periodic Table
- Understand the arrangement of the Periodic Table: periods and groups; metals and non-metals
- Understand how patterns in reactions can be predicted with reference to the Periodic Table
- Describe the properties of metals and non-metals
- Use and interpret the Periodic Table
- Make predictions based on trends in chemical and physical properties
- Classify and compare properties of metal and non-metals
- Link properties of metal and non-metals to uses
- Record observations and cognise trends and patterns

### 6. Atomic Structure Recap



Mass number (11) is the number of protons plus the number of neutrons. We know there are 5 protons. So how many neutrons are there?

Mass number (11) – proton number (5) = 6 neutrons!

## 8.3 – The Periodic Table

### 1. The Periodic Table

The Periodic Table displays all the elements that exist so far, on the Earth.

Elements are arranged in order of increasing number of **protons**, from left to right.

See **Box 6 for a recap on proton number.**

Each element is represented in a box like the following. We can gain the following information from it:

**Mass number** – number of protons + number of neutrons

**Element symbol**

**Proton number** – number of protons

The columns of the Periodic Table are called **groups** – all elements in the same group share similar chemical properties.

The rows of the periodic table are called **periods**.

### 5. Group 0 – The Noble Gases

**Trends down the group**

- Melting and boiling points increase
- Density increases

The Noble Gases are **colourless, inert** (unreactive) gases. It is these properties that make them useful in the following situations:

- Helium is used to fill balloons as it is less dense than air and therefore will float
- Argon is used to fill filament lamp bulbs. This is because it is unreactive and non-flammable. It will not react with the metal filament as it glows.

← Scan here for more information about the uses and properties of group 0 elements



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### 2. Metals and Non-metals

Metal elements are found to the left of the Periodic Table and non-metal elements are found to the right.

Metals and non-metals have different properties:

Metals	Non-metals
Good conductors of heat and electricity	Insulators of heat and electricity
High melting and boiling point	Low melting and boiling points
Lustrous	Dull
Shiny when cut	
Malleable	Brittle
Ductile	

There are some exceptions to these properties.

### 3. Group 1: The Alkali Metals

**Trends down the group**

- melting and boiling points decrease
- hardness decreases
- reactivity increases

**When group 1 metals react with water:**



Dissolves in the water to

produce an alkaline solution – hence the name alkali metals.

**Observation;** universal fizzing/bubbling/ fumes, flames

All other group 1 metals react with water in this way.



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Scan here to watch the reactions of group 1 metals and water

### 4. Group 7 – The Halogens

**Trends down the group**

- melting and boiling points increase
- colour gets darker
- reactivity decreases

**Reacting with group 1 metals:**

A salt is made.

*Hint – see 7.10 Acids & Bases for a recap on salts*

The suffix of the halogen changes from **-ine** to **-ide**.

e.g. sodium + chlorine → sodium chloride  
 lithium + bromine → lithium bromide

Scan here for more information about the uses and properties of group 7 elements



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Displacement reactions occur when a less reactive element in a compound is removed and replaced (**displaced**) by a more reactive element

e.g.

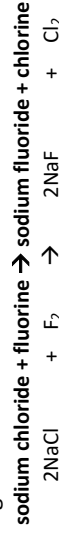
sodium chloride + fluorine → sodium fluoride + chlorine

Fluorine is more reactive than chlorine and so replaces it in the compound. Chlorine is removed as an element...

...But with lithium bromide and iodine, there is no reaction. Iodine is below bromine in the Periodic Table and therefore less reactive. It cannot displace bromine from its compound.

When writing balanced symbol equations, remember halogens are diatomic molecules when in their elemental form;

e.g.



## What do I need to be able to do?

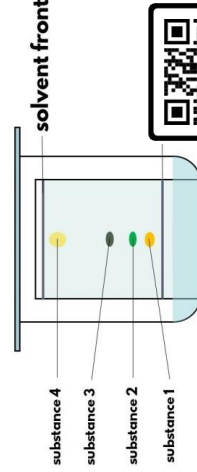
- The concept of a pure substance
- Mixtures, including dissolving
- Simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography
- Select most appropriate technique to separate a mixture and perform it
- Identify pure substances and mixtures
- Plan investigations, identify and control variables
- Make observations and take measurements
- Make predictions and draw conclusions
- Attraction and repulsion of magnets
- The conservation of mass during dissolving
- Reversible nature of physical changes e.g. crystallisation
- Separation of coloured substances using chromatography
- Sugar/salt water not being separated by filtering

## 7. Chromatography

Paper Chromatography is used to separate mixtures of soluble substances. These are often coloured substances such as inks or food colourings.

The substances are separated based on their solubilities.

The more soluble substances in the mixture move further up the chromatography paper in the solvent.



Scan here to see this being performed

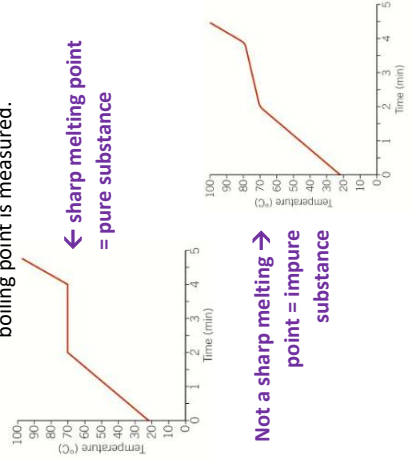


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## 1. Purity of a Substance

A pure substance – in Chemistry – is a singular element or compound.  
e.g. bottled water is not pure as it does not only contain  $H_2O$  molecules, it also contains ions.

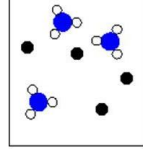
To identify a pure substance, it's melting, or boiling point is measured.



## 8.4 – Separation Techniques

### 2. Mixtures

A mixture is a substance that contains 2 or more different elements or compounds, that are not chemically bonded to each other



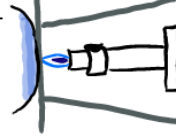
#### How are compounds and mixtures different?

Mixture	Compound
Different substances are not bonded together	Atoms of different elements are bonded together
The substances in the mixture keep their own properties	The properties of the compound are different to the properties of the elements it is made of
Easy to separate	Chemical reactions are needed to separate the elements
Amounts of each substance in the mixture can vary	Number of atoms of each element in the compound is fixed

### 5. Evaporation and Crystallisation

Crystallisation can separate a soluble solid from a liquid e.g. salt and water.

The mixture is poured into an evaporating dish and heated until most of the water has evaporated.



The evaporating dish is then left to cool, and crystals form.



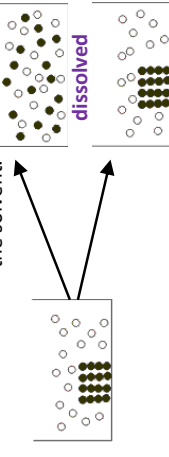
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### 3. Solubility & Solutions

A solution is formed when a solute is dissolved in a solvent.

e.g. when sugar is dissolved in water, sugar is the solute, the water is the solvent and the sugary water is the solution

Dissolving particles of the solute do not disappear – they just fit between the particles in the solvent.

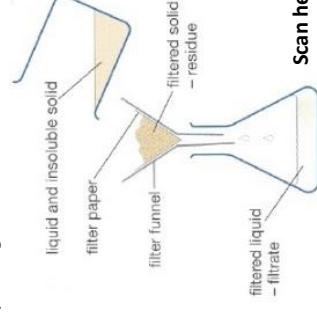


If 10g of sugar is added to 100g of water – then you'd have 110g of sugary water solution.

The mass of solute that dissolves in 100g of water to make a saturated solution is called its solubility. This is different for every substance. The solubility of most substances increases as the temperature of the solvent does.

### 4. Filtration

Filtration can separate an insoluble solid from a liquid. e.g. sand and water



Scan here to see this being performed

The particles of the insoluble solid are too big to fit through the tiny holes in the filter paper, whereas the particles of the liquid are not.



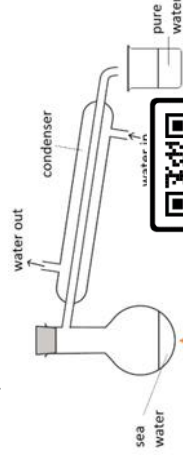
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### 6. Distillation

Distillation separates a solvent from a solution.

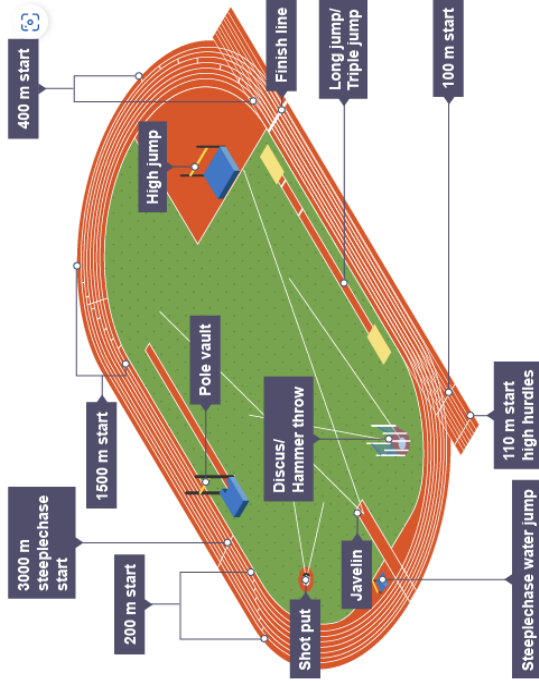
The solvent has a much lower boiling point than the dissolved solute.

- As the mixture is being heated, the solvent evaporates first, at a much lower temperature.
- The vapours then enter the condenser where they are cooled and turn into a liquid.
- The liquid collects in the beaker.



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# Athletics (Indoor)



Athletics is a collection of sporting events that consist of the three major areas of running, jumping and throwing. The running events include sprints, middle and long-distance events and hurdling. Jumping events include the long jump, high jump, triple jump and pole vault, while the throwing events include the discus throw, hammer throw, javelin throw and shot put.

**Track events** – these races are started with an electronic pistol which is only sounded again on a false start. In races that are very close, officials use a digital line-scan camera across the finish line to give them a photo finish picture. The clock stops when an athlete has passed through the finish line.

**Jumping events** – these events are measured from the front edge of the take-off board to the first mark made in the sand by the athlete. The distance is always measured to the nearest centimeter and athletes will always be given a minimum of three jumps.

**Throwing events** – these events are measured from the front edge of the throwing line to the first mark made in the ground by the implement. The distance is always measured to the nearest centimeter and athletes will always be given a minimum of three attempts.

**Task 1**  
Components of fitness in athletics

- 1) When is reaction time needed in a 100m race?
- 2) Why does a javelin thrower need power?
- 3) Why does a long jumper need speed?

Watch all 5 videos multiple times to learn and understand the techniques

**Task 2**  
True or False

- 1) The pole vault is a throwing event
- 2) The 4x100m relay is performed by 4 athletes
- 3) When landing in the sand on the triple jump it is measured from the closest mark to the take off board.

**Spin for answers**

Task 1:  
1) At the start reacting to the gun  
2) A javelin thrower needs speed in their run up and strength in their throw  
3) A long jumper needs power to jump far and power is made up of strength and speed

Task 2:  
1) False  
2) True  
3) 3





PERFECT  
PRACTICE  
MAKES  
PERFECT



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Learning to Learn



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The 'Listen' Project #1